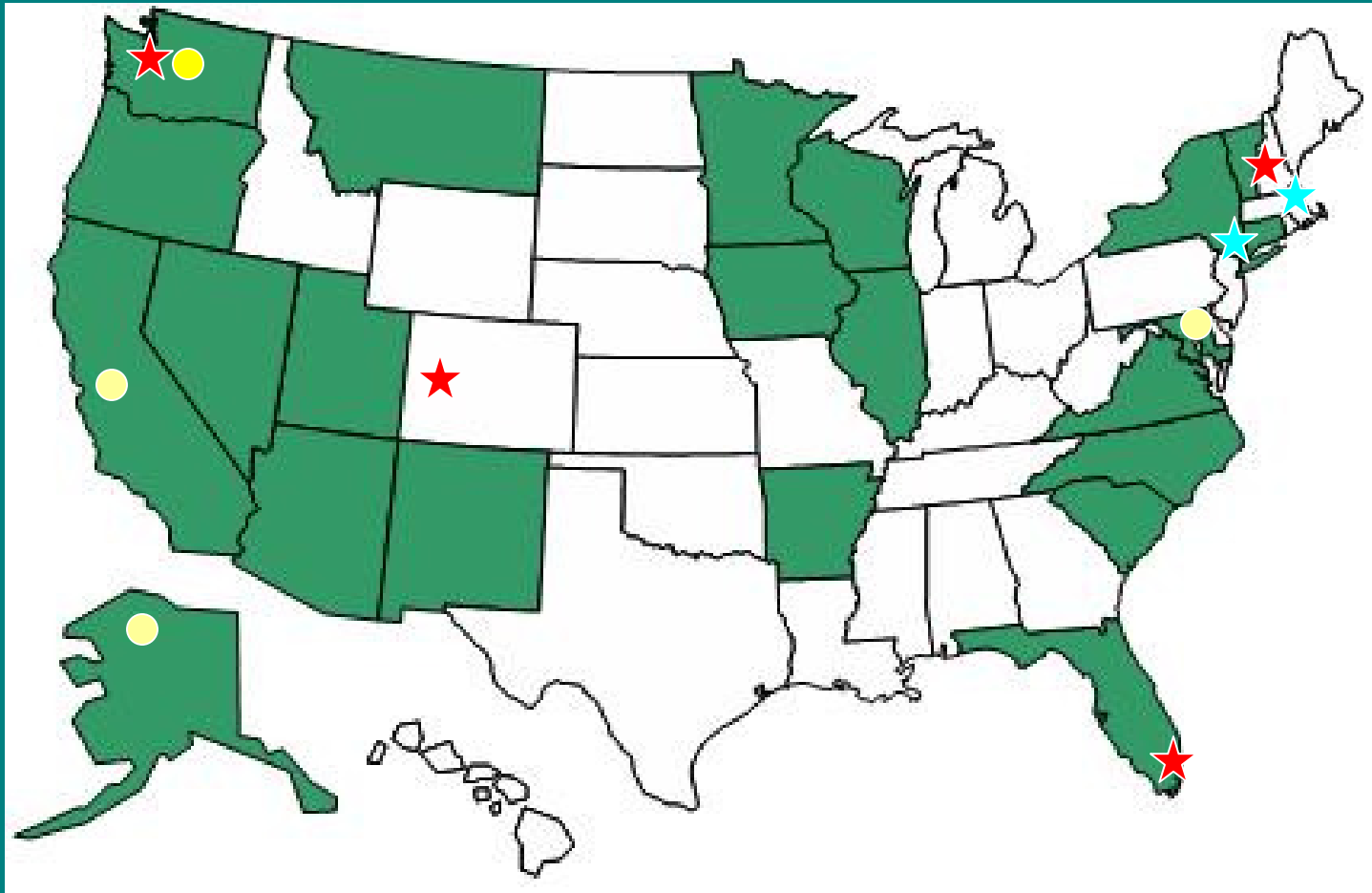


Adaptation to Sea Level Rise and Associated Coastal Hazards

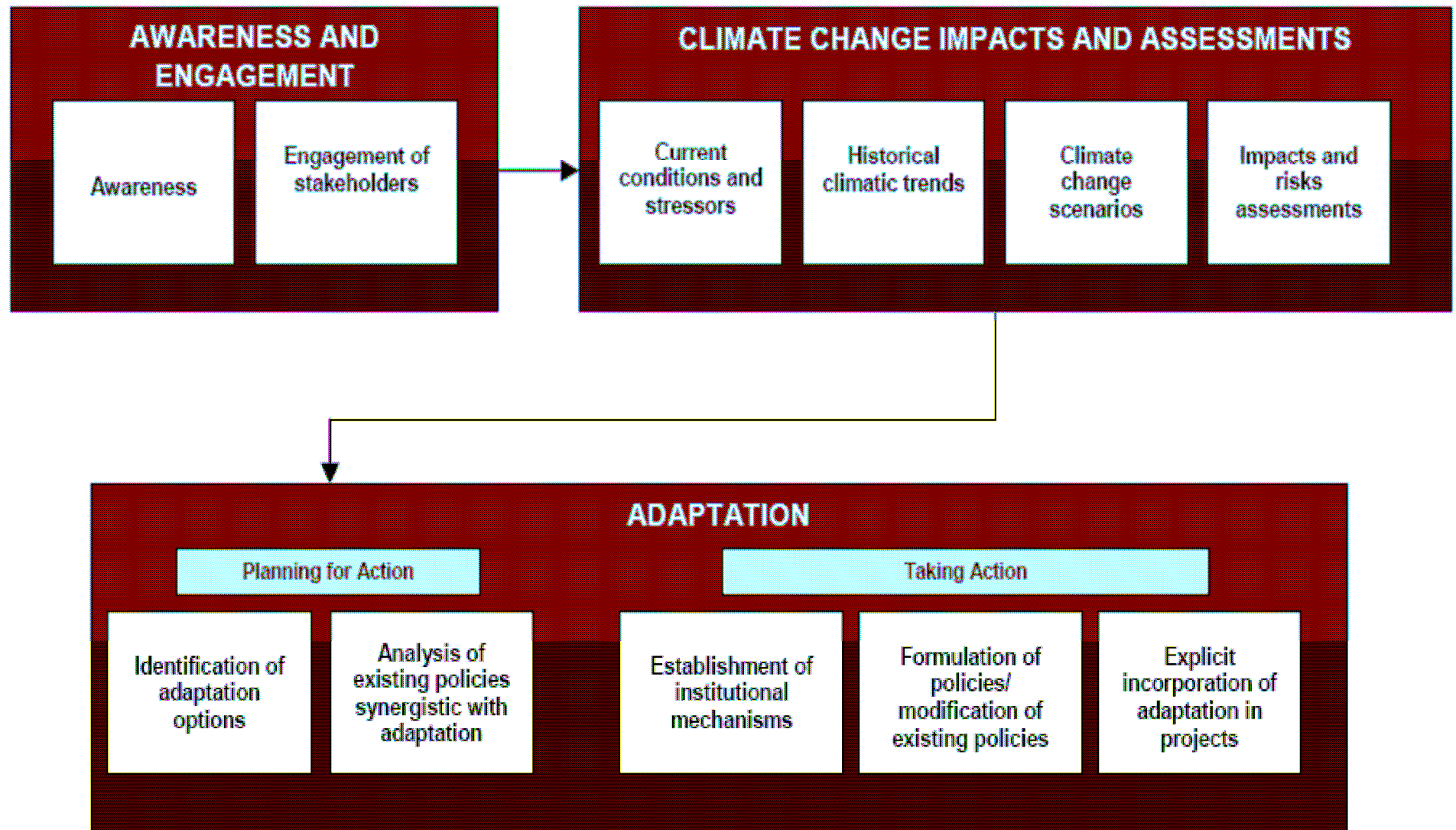
Kirstin Dow
Univ. of South Carolina- Geography
Carolinas Integrated Sciences and
Assessments

States with Active Climate Legislative Commissions and Executive Branch Advisory Groups



Updated January 2008

The Adaptation Process



Adaptation Requirements

Adaptation Needs

- New information must be available
- Systems must be able to process the information
- System must have the ability to change based on new information

Source: Pahl-Wostl 2007

Adaptive Capacity

- Ongoing learning
- Flexibility
- Ability to experiment and adopt novel solutions
- Potential to develop generalized responses to a broad classes of challenges

Source: Walker *et al.*, 2002

Adaptation Guidebooks

- “Preparing for Climate Change: A Guidebook for Local, Regional and State Governments” (ICLEI; King County, Washington; Climate Impacts Group, 2007 projected).
- “Cities Preparing for Climate Change: A Study of 6 Urban Regions” (Clean Air Partnership, May 2007).
- “Adapting to Climate Change: An Introduction for Canadian Municipalities” (Canadian Climate Impacts and Adaptation Research, February 2006).
- “Surviving Climate Change on Small Islands: A Guidebook” (Tyndall Centre for Climate Change Research, October 2005).
- “Climate Change Risk and Vulnerability: Promoting an Efficient Adaptation Response in Australia” (Australian Greenhouse Office, March 2005).
- “Coastal Hazards and Climate Change: A Guidance Manual for Local Government in New Zealand” (New Zealand Climate Change Office, May 2004).
- “Climate Adaptation: Risk, Uncertainty and Decision-making” (UK Climate Impacts Programme, May 2003)

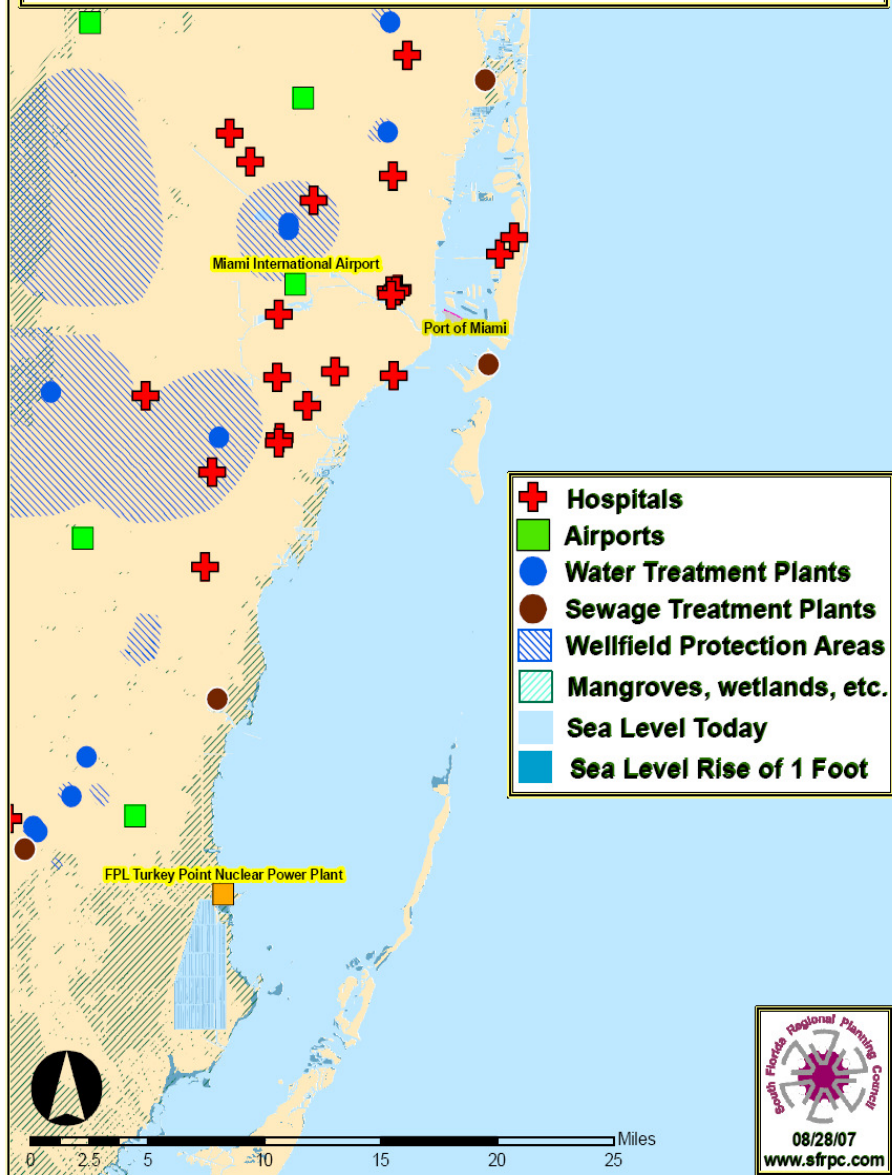


PHOTO CREDITS

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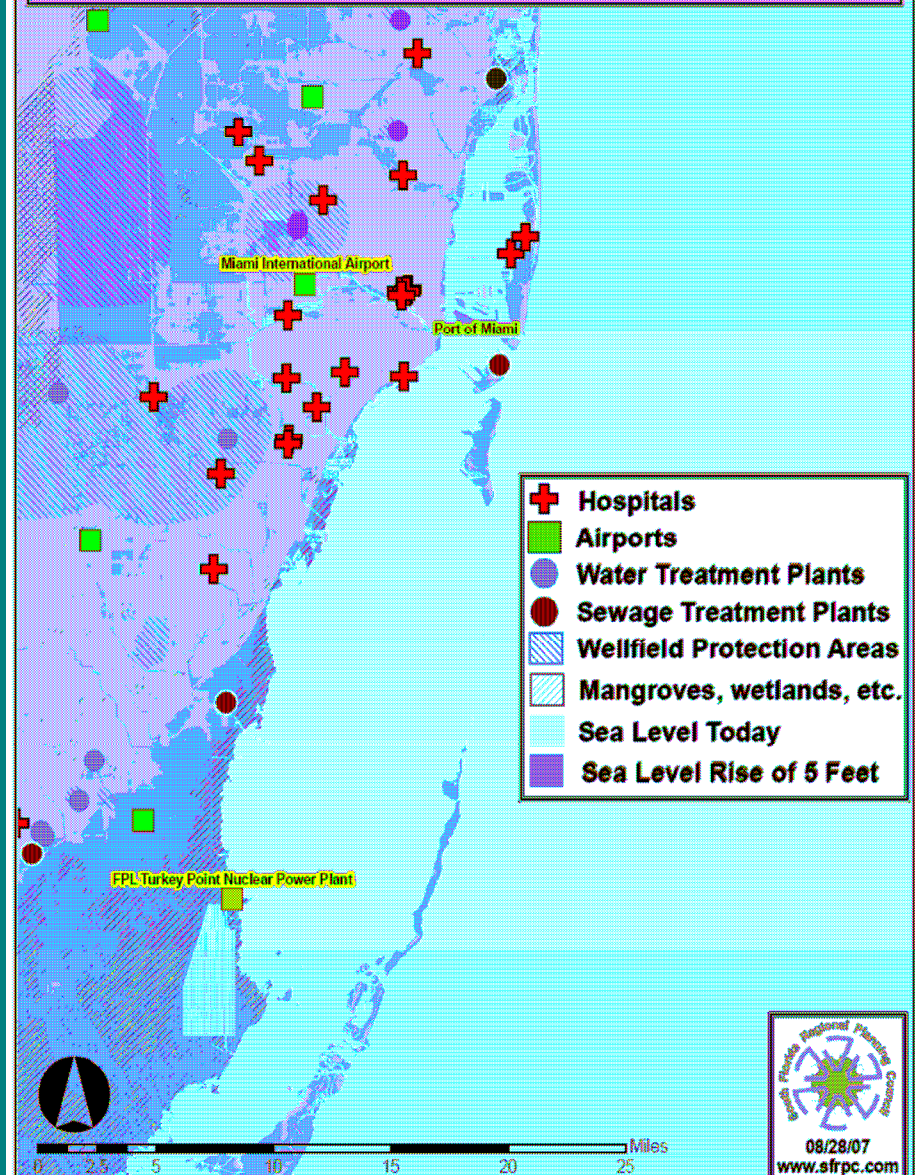
THIS PROJECT WAS PREPARED BY THE SOUTH FLORIDA REGIONAL PLANNING COUNCIL
with the generous support of the Florida Department of Community Affairs.

Miami-Dade County's Vulnerability to Sea Level Rise



Note: For planning purposes only and not a model result. Sources: FIU/IHRC, Miami-Dade County, SFRPC.

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Maryland Adaptation Response Working Group

- 1 of 3 working groups of the Maryland Commission on Climate Change
- Started in Fall 2007
- Composed of 4 Technical Working Groups
 - Existing Built Environment and Infrastructure
 - Future Built Environment and Infrastructure
 - Human Health, Welfare, and Safety
 - Resources and Resource-Based Industries
- Science Working Group is also working currently

<http://www.mde.state.md.us/air/mccc/>

Types of Adaptation

- *Technological Development*
- *Government Planning, Monitoring and Assessment Programs*
- *Insurance Programs*
- *Building, Infrastructure and Land Use Practices*
- *Economic Development and Financial Management*

Smit and Skinner, *Adaptation Options In Agriculture To Climate Change: A Typology*, Mitigation and Adaptation Strategies for Global Change 7: 85–114, 2002.

Maryland Adaptation Response Working Group

- *Focus on the “government programs” and integration with existing efforts*
 - develop studies, assessments, reviews, databases and maps to support planning and response
- *Significant attention to changing building construction, infrastructure, and land use practices*
- *Options on insurance and economic development*
- Addresses training, education, and capacity building

Policy Options Under Development

Common Options

- **Integration of Planning Efforts**
 - Better coordination state-local efforts on *where*
- **Building and Development Standards**
 - New thinking about *how* development occurs
- **Integration of Spatial Data Systems**
 - Availability of information on SLR and assoc. hazards
- **Coastal Protection Evaluation**
 - Hard vs. soft protection strategies, standards, inventory for modify/replace/abandon decision-making
- **Hazard Preparedness and Emergency Planning**
 - Linked to public health, capacity, vulnerable populations
- **Public Awareness and Capacity Building**
 - From general awareness to training and capacity building among local officials and affected trades and professions

Policy Options Under Development

Existing Built Environment and Infrastructure

- Observation System for Changes in Coastal Zones
 - Better monitoring of SLR
- Adaptation of Vulnerable Coastal Infrastructure
 - Study of available options for key infrastructure
- Risk Disclosure for Real Estate Transactions
 - Residential and *commercial*

Policy Options Under Development

Future Built Environment and Infrastructure

- State Agency Reporting on Adaptation Actions
 - Monitoring progress
- Establish a Climate Change and Insurance Advisory Committee
 - Seen as supportive to State Insurance Administration Efforts
- Economic Development Initiative
 - Opportunities for Green Collar Jobs

Policy Options Under Development

Human Health, Safety and Welfare

- Health Impacts Assessments of the Climate Change Action Plan
- Coordination Across Agencies Responsible for Human Health and Safety
- Vector-borne Surveillance and Control Programs

Policy Options Under Development

Resources and Resource-Based Industries

- Establish New/Additional Criteria for Identifying Priority Protection Areas
 - Integration with existing programs, wetland migration
- Forest and Wetland Protection
 - Retain and expand areas
- Modify Environmental Protection Regulations
 - Integration
- Resource-Based Industry Economic Impacts
 - Vulnerability assessment, tourism, shellfish, crabs, boating, others